

Annual Report

FOR

1898,

BY

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Medical Officer of Health

FOR THE

URBAN DISTRICT OF

WALTHAM HOLY CROSS.

Waltham Abbey:

PRINTED BY E. COWING AND SON, HIGHBRIDGE STREET.

WALTHAM ABBEY:

E. COWING AND SON, "WEEKLY TELEGRAPH" OFFICE.

ANNUAL REPORT,

1898.

WALTHAM ABBEY,

7TH FEBRUARY, 1899.

To the Chairman and Councillors of the Waltham Holy Cross Urban District Council.

SIRS,

I have the honour to present to you the Annual Report for the past year, 1898, comprising as usual summarised and tabulated information concerning the general sickness and mortality rates, together with a synopsis of the various sanitary matters that have engrossed the attention of the Council, during the year that has passed. In addition to this, other matters such as Meteorology, Vaccination, etc., have been touched upon, forming as they do component parts of the wide subject Hygiene, as applied to the Urban District of Waltham Holy Cross. For the reasons given in the report for 1897, the headings under which the various subjects are treated will remain unchanged.

The usual Tables of Statistical Information, "A" and "B," supplied for the use of the Local Government Board, will be found filled in, in detail, at the end of this report.

Table "A" relates to the deaths during the year 1898, classified according to diseases, ages, and localities; and Table "B" to the population, births, and to new cases of infectious sickness coming to the knowledge of the Medical Officer of Health by reason of the Infectious Diseases (Notification) Act, 1889, and classified in the same manner.

I. GENERAL SANITARY CONDITION OF THE DISTRICT.

The population of Waltham Abbey, as ascertained at the last decennial census of 1891, was 6,066, and the estimated population up to the middle of June, 1898, was 6,780. Eighty-four deaths were registered in the district during the past year, 39 being males, and 45 females; the births during the same period amounted to 171—of these 87 were males, and 84 females, giving a birth-rate of 25·2 per 1,000.

An accurate death-rate can only be obtained after certain corrections have been made. Account has therefore been taken of deaths of non-residents and violent deaths, on the one hand; and deaths of persons who, being residents, have died without the district, on the other hand. To the former class 2 can be assigned, to the latter 7. The "Corrected Death-rate" will then be found to work out at 13·11 per 1,000, as caused by disease alone. The number of deaths per 1,000 of the population from the seven principal Zymotic Diseases, viz.: Small-pox, Scarlatina, Whooping Cough, Measles, Diphtheria, Diarrhoea, and Fever (Typhus and Typhoid), constitutes the so-called Zymotic death-rate.

In estimating the healthiness or otherwise of our district it would be obviously unfair to draw conclusions from the Zymotic death-rate alone; nevertheless the frequent occurrence or continued prevalence of one or more of the diseases in question, would be circumstantial evidence that certain insanitary conditions prevailed; and yet the marked tendency to fluctuation, even amounting to periodicity, noticed in such diseases as Scarlatina, Whooping Cough, and Measles, which, when introduced among a susceptible community,

assume epidemic proportions and increase the death-rate, although not of necessity proof of the unhealthiness of a district, point out in figures the percentage loss of life from diseases undoubtedly preventible. During 1898, 21 deaths occurred from these diseases, giving a Zymotic death-rate of 3·0 per 1,000; of these deaths 8 were due to Measles, 7 to Diarrhoea, 4 to Diphtheria, 1 to Typhoid, and 1 to Small-pox. From these figures you will perceive that the general death-rate, although showing a fractional increase over last year, is again below the average for the past seven years; and also that the death-rate from diseases due to defective sanitation and other preventible causes, is distinctly above the average by reason of the epidemic prevalence of Measles in January, and of Infantile Diarrhoea in the Autumn. The "Natural" increase of the community which is shown in the ratio of birth to deaths (171 : 84), is well marked in that the former are twice the number of the latter, and produce a birth-rate of 25·2 per 1,000, and yet this rate is 2·87 below the average of the 7 years from '91 to '97.

The number of infants dying under one year (including premature births) was 23, giving an infant mortality of 134·5 per 1,000, or in other words, of every 1,000 children born 134·5 died before they had reached the age of twelve months, and produce a death-rate of under one year of 3·39 per 1,000. These figures are the most unwelcome feature in the statistics before you, since they demonstrate a deplorable loss of infant life from causes, in many cases, distinctly within the control of parents or guardians. Suffice it to say that wanton exposure to infection, improper care, management and feeding, negligence to provide skilled advice in the early stages of disease, etc., all contribute to this end.

The fatality among aged persons is set forth in the following table:

65 years and under 70	...	...	...	4 deaths.
70 , , , 80	...	...	6	,"
80 , , and upwards	...	...	6	,"
			—	
			16	
			—	

The average age of those 16 persons being 76 years

The table marked 1 epitomises the ages at which death took place, and that marked 2 shows the general death-rate of specified diseases, etc.

I

Under 1 year.	1 year and under 5.	5 years and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Total.
23	12	4	1	28	16	84

2

Population, June, 1898.	Births per 1,000.	Deaths per 1,000.	Zymotic Death Rate.	Infantile Death Rate.	Deaths compared with Infantile Births.	Phthisis.	Diphtheria.	Heart.	Bronchitis and Pneumonia.	Influenza.	Cancer.	Diarrhoea.	Measles.
6780	25.2	13.11	3.0	3.39	134.5	.59	.44	1.18	1.3	.29	.73	1.03	1.17

Table 3 shows statistical epitome for the past eight years.

Year.	Estimated Population.	Birth-Rate.	Death-Rate.	Zymotic Death-Rate.	Notifiable Sick-ness-Rate.	Infant Mortality.
	(census)					
1891	6,060	33.3	16.0	.8	4.29	119.4
1892	6,153	30.8	16.2	2.4	12.18	126.3
1893	6,252	30.87	12.3	1.6	12.6	134.7
1894	6,343	26.6	11.8	2.2	11.3	118.3
1895	6,448	21.5	16.2	2.4	5.9	151.0
1896	6,550	26.25	10.68	.6	1.67	122.6
1897	6,660	27.17	12.3	2.25	3.6	99.4
1898	6,780	25.2	13.11	3.	6.78	134.5
Averages	6,404	27.71	13.32	1.90	7.29	125.7

II. AREA, DENSITY OF POPULATION, ETC.

The total area of the district is 11,017 acres. The number of inhabited houses, 1,315 ; as against 1,303 last year. There are 5 uninhabited, and 19 in course of erection.

The density of persons per acre equals .615 ; and the number of individuals per inhabited house, 5.11.

III. METEOROLOGY.

Rain in measurable quantity, viz. : .01 of an inch fell on 88 days in the year, the first six months yielding 7.18 inches, and the remaining half 9.3 inches, and produced a total fall of 16.48 inches, as against an average of 24.05 inches for the past 30 years.

It will be seen from the table marked 4 that the lowest registered temperature for the year was 21° F. on the 21st

February ; the highest being 90° F. in the protected shade on the 15th August ; the 1st August being the date on which the greatest range occurred, i.e., 45° F.

The weather generally was of an unusual character ; the seasons were, if the summer be excepted, not well defined. The Winter, Spring, and Autumn were mild, but the months of June, July, August, and September were marked by exceptional brilliancy, continued high temperature and barometric pressure, maximum of sunlight and lessened rainfall--conditions distinctly favourable to our well being.

The incidence of Summer or Infantile Diarrhoea was felt somewhat later in the year than usual, and did not reach its height till the end of September and commencement of October when the rains began, and as is usual when the superficial layers of the earth have been raised to an abnormal temperature, was slow to decline.

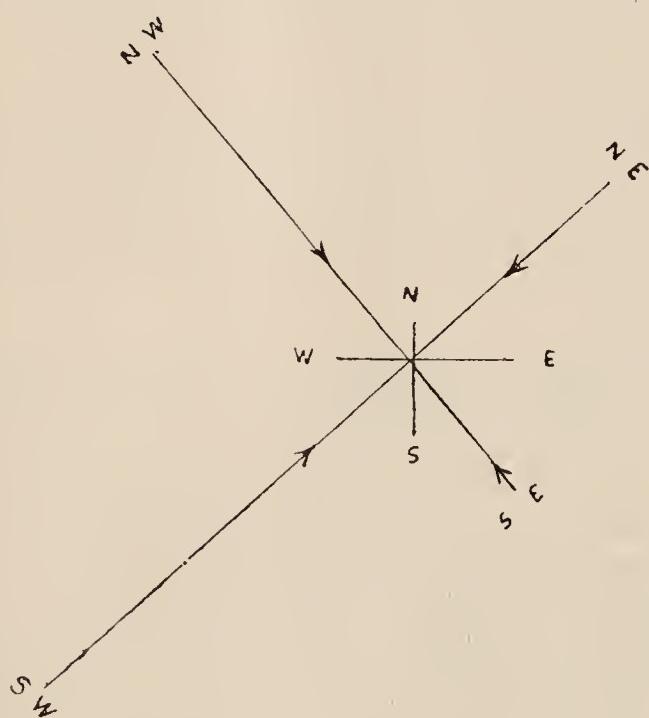
Table showing variations in temperature and pressure of atmosphere.

	Temperatures. Greatest Heat and Cold, with Dates. Fahrenheit.				Mean Barometric Pressure for each Month.
January ...	63°	8th	25°	8th	30.12 inches.
February ...	63°	26th	21°	21st	29.8 ,,
March	68°	17th	23°	14th	29.83 ,,
April	70°	18th	25°	5th	29.71 ,,
May	86°	25th	34°	13th	29.59 ,,
June	88°	20th	38°	3rd	29.77 ,,
July	87°	18th	40°	11th	30.12 ,,
August	90°	15th	41°	2nd	29.91 ,,
September	87°	9th	31°	27th	30.18 ,,
October ...	77°	4th	36°	3rd	29.58 ,,
November	64°	28th	24°	30th	29.67 ,,
December	65°	9th	22°	23rd	30.18 ,,

Rainfall for 1898.

Greatest quantity in 24 hours.	Date	Month	Quantity in inches		Total
			INCHES	MM.	
.27	6th	January	... ..	.. ..	1.72
.27	28th	February	... ..	.. ..	1.84
.37	28th	March	... ..	.. ..	1.07
.38	28th	April	.. ..	.. ..	1.30
.37	2nd	May	... ..	.. ..	1.77
.32	10th	June	... ..	.. ..	1.48
.31	28th	July	... ..	.. ..	1.05
.74	8th	August	... ..	.. ..	1.28
.27	30th	September	... ..	.. ..	.34
.45	17th	October	... ..	.. ..	3.26
.35	26th	November	... ..	.. ..	1.31
.70	6th	December	... ..	.. ..	2.06
			INCHES	..	16.48

Wind-rose ; or diagram showing in relative linear proportions, the direction of the wind, from various points of the compass, in 1898.



It is quite within the recollection of some of the older inhabitants that Ague was not an uncommon disease here in the thirties and forties, and that acute and sub-acute

Rheumatism were so prevalent in those days that every tenth person during his or her lifetime fell a victim to it. Floods were of frequent occurrence, even reaching the main streets of the town, fogs were heavy and lasting, and the soil remained water-logged all the year round. Now Ague is a disease of the past, and cases of acute Rheumatism are becoming fewer every year. Many factors have been and are still in operation whereby these results have been attained, and to enumerate them in their sequence, is very much as follows :—

- (a) Cultivation of Land and drainage thereof.
- (b) The formation of Canals, Cuttings, and smaller Water-ways.
- (c) The boring of Deep Wells and the abstraction of underground water.
- (d) The Lea Valley Drainage Scheme, causing a more rapid discharge of storm-water seawards, and
- (e) Lessened average rainfall in the last decade.

These several items collectively are operating to produce a more healthy environment for those who by force of circumstances are compelled to reside in the lowest part of the Lea Valley.

IV. WATER SUPPLY, ANALYSES, ETC.

The year 1898 will be long remembered as the year of drought; and when the unfortunate position in which the whole of the East End of the Metropolis, together with its outlying suburban population was placed, is considered, we in the extreme limit of Water Supply of the East London Company have every reason to congratulate ourselves, in that at no time throughout the year was the supply to this district curtailed, or the quality anything but perfectly pure;

and those who at first were reluctant to abandon their animal-polluted surface water, at length acknowledge that they owe a debt of gratitude to the cause of science, and have not only provided themselves with the "prime necessity of life," but have prevented endless suffering among those on whom they are indirectly dependent.

Quantitative analyses by Wanklyn's Ammonia process were made by direction of your Council of 41 wells in various portions of the town, comprising Sun Street, Market Square, Church Street, Highbridge Street, Victoria Street, Greenfield Street, Manor Road, and Farm Hill. All the waters were of shallow wells in yellow clay or ballast, with little or no provision to safeguard them from superficial surface pollution. The results of the analyses showed "previous sewage contamination" in all, but of varying degrees of intensity and two or three were obviously dilute sewage, whilst others exhibited intermittent contamination, the most dangerous of all.

The most interesting waters examined were those of Church Street, the west end of which is on a lower level than the disused Burial Ground surrounding the Abbey; Nos. 6 and 7 showed slight excess of Chlorine and Free Ammonia, but marked Albuminoid Ammonia and abundant Phosphates and Nitrates, indicative of remote animal pollution, probably derived from the graveyard in question.

Statutory notices to connect with the mains were served on all owners of waters "unfit for domestic purposes," with varying success, and with those in default in the coming year it is your Council's intention to proceed a step further.

I append a recent analysis (December 28th, 1898,) of the Lea Road deep well water, and one from a well in Sun Street

for comparison, where the occupier of the premises made the proud boast that he had used no other for forty years and felt no ill effects therefrom.

ANALYSIS OF DEEP WELL, LEA ROAD.

Temperature Centigrade	11°	Parts per 100,000.
Total Solid Matter	...	...	...	28.52
Organic Carbon	...	...	...	.114
Organic Nitrogen	...	...	...	.010
Ammonia	...	...	...	.014
Nitrogen as Nitrites and Nitrates	...	...	...	Trace
Total Combined Nitrogen	...	...	...	.022
Chlorine	...	...	...	2.1
Total Hardness	...	...	...	19.7

ANALYSIS OF SURFACE WELL, SUN STREET.

Total Solids	673.4	Parts per Million.
Chlorine	...	...	...	210.
Free Ammonia	...	...	...	.852
Albuminoid Ammonia	...	...	...	1.360
Nitrites	...	...	...	Marked
Nitrates	...	...	...	...Abundant
Hardness	...	...	...	Very excessive
ColourYellowish	

The East London Mains have been extended as follows :

966 yards from Pynest Green, Avey Lane to Riggs' Retreat, High Beech.

766 yards from foot of Woodredon Hill to Hyde's Farm, Honey Lane.

1732 yards.

The domestic supplies made in 1898 are as under :—

Voluntary	...	...	50	
Compulsory	...	...	40	
			—	
		Total	90	
	Previous Connections		649	
			—	
	Grand Total		739	

V. HOUSING OF THE WORKING CLASSES.

The demand for houses suitable to the requirements of the working classes still exists. All the New Waltham cottages are inhabited, and those in process of building are bespoken. In proof of the statement that the demand exceeds the supply, you will find, on turning to Sec. II. of this report, that the number of individuals per inhabited house is actually larger in 1898 than in the previous year, although many new buildings have been erected, demonstrating that immigration has taken place, since the "Natural Increase" of the population would not account for this.

Apart from the "Insanitary Area" under treatment, it is well known that other defective dwellings exist, dotted here and there, both in town and country; but until opportunity offers it would be a great hardship, and moreover impolitic, to make any sweeping reform. Both periodically, and as occasion required, visits of inspection have been made, resulting in the temporary amelioration of the cottagers' lot.

VI. INFECTIOUS DISEASES.

It will be seen from Table 7 that the number of cases of Infectious Disease notified under the Act in the year under discussion is again raised, exceeding the average of the seven previous years, and follows out a well marked curve as indicated in the diagrams below.

Of the 46 notifications received this year, 23 were Diphtheria, 12 Scarlatina, 7 Erysipelas, 2 Enteric, and 2 Small-pox.

Diphtheria.—There has been no distinct epidemic of Diphtheria, but the disease has existed in endemic form

throughout the year. The total number of cases reported was 23, their seasonal distribution being as follows: in the first quarter, 2; in the second, 13; in the third, 3; and the last, 5. The maximum then was attained in the June quarter. All these cases, with one exception, existed in the Urban portion in contradistinction to the outlying or rural districts, and exhibited varying degrees of intensity.

When any doubt existed as to the correctness of the diagnosis a bacteriological examination of the membrane was made from the throat of the infected person, and all cases clinically diagnosed as Diphtheria were found to be such by the presence of the Klebs-Löffler bacillus, and in many of the throats examined the disease was complicated by the presence of other virulent micro-organisms such as strepto-cocci, etc.

Your Council authorised the purchase of a supply of Serum for Diphtheria (Anti-diphtheritic Serum), which was obtained from the British Institute of Preventive Medicine, and to the early and systematic use of this antidote may justly be described the brilliant results obtained in the treatment of the cases.

My colleagues, Dr. J. B. Henderson and Dr. W. H. Beaumont, have furnished me with details of the cases which came under their treatment with the afore-mentioned Serum, and from these data the following statistical facts are deduced:

In the year 1892 the Case Mortality was 38 %
„ „ 1893 „ „ 40 %
„ „ 1894 „ „ 54·5 %
„ „ 1895 „ „ 40 %
„ „ 1896 „ „ 66·6 %
„ „ 1897 „ „ 45·4 %
1898 „ „ 14·3 %

That is to say the number of deaths per hundred persons attacked with Diphtheria has been reduced to 14·3 per cent., whereas the average of the six years previously quoted gives the fearful mortality of 47·4 per cent., or nearly one death in every two cases.

By this means Diphtheria has been shorn of its terrors, there is infinitely less risk to those in attendance on the patient, and the patient himself is not constantly worried by throat applications and other disturbing influences so harmful to his poisoned nervous system ; and moreover the quarantine necessary after an attack is much reduced.

It must not be supposed that the Serum has been used for the first time in this district during the past year ; on the contrary, its use has been steadily persevered in since its discovery, but this is the first record of an unbroken series of cases so treated, and a word of praise must be accorded to the excellency of the Serum supplied as well as its concentrated form facilitating its exhibition. In the deaths recorded the disease was too far advanced (5th day) before Serum could be injected, and had it been possible to have done so earlier it is fair to assume that a fatal issue would have been prevented.

The methods adopted to safeguard the inmates of infected premises, viz., isolation, disinfection during the progress of the disease, destruction of infected articles by fire, and adequate disinfection of infected rooms by SO₂ gas and formaldehyde have been successful, no second case having arisen.

Small-pox.—The monthly returns of Infectious diseases for the past year in the County of Essex tabulated by the

County Medical Officer containing no other cases of Small-pox than the two under notice. The first case was a child aged five, at Long Street, Copt Hall Green, notified on June 17th and died on the following day; the body duly disinfected was removed to the mortuary, and buried on the 19th. Notice of the second case was received on June 30th, and was a brother of the deceased child. Prior to the second case being notified, the contents of the infected room had been destroyed by fire, and all exposed persons re-vaccinated. The second case was of the modified or variloid type, and made a good recovery. The Primary infection was probably contracted in London, but there was no definite proof to that effect. Rigid Isolation, re-vaccination of exposed persons, destruction of infected articles, and the offer of re-vaccination to the inhabitants of the Hamlet, were the successful methods employed in arresting the spread of the disease.

Scarlet Fever.—Twelve cases of Scarlet Fever were reported under the Act, and of these ten occurred at the "Suntrap" Convalescent Home at High Beech, where this disease was imported on three distinct occasions—in April, May, and September; the two other cases notified in November, also from the High Beech district, were traced as being contracted in Chingford, and had therefore no connection with the previous outbreak.

"The Suntrap" is an up-to-date scientifically constructed Convalescent Children's Home with forty beds, invariably filled. The class of cases drawn from several of the Metropolitan Hospitals are chiefly surgical, no infective convalescent being received, and there is no reason to doubt but that Scarlet Fever was introduced on the three specified occasions by visitors from the East End of London. Acting upon advice

given, the Matron has decided to discontinue the usual Visitors' Day, and allow only parents or guardians admission to the Home at times of urgency.

"The Suntrap" is provided with an Isolation Cottage (Sanatorium) with six beds, where all the cases were under the care of specially provided trained nurses.

It will be noted that no deaths took place. Of late years the type of Scarlet Fever has become more and more attenuated ; a case of Anginosa, or Maligna, has not been recorded certainly since 1891.

Diarrhoea.—Diarrhoea in epidemic form was rife in the Autumn, and reached its maximum at the end of September. Not being scheduled among the notifiable diseases, it is impossible to give the proportion of cases to population ; the deaths, however, directly attributable to Diarrhoea were 7, giving a mortality of 1·03 per 1,000. The factors whereby an epidemic of Diarrhoea is caused were of course manifest, and have been quoted in detail in previous reports ; suffice it to say that advice was given at every available opportunity, explaining how this disease is produced and the methods of avoiding the same.

Whooping Cough.—One or two cases only of Pertussis were noted during the year, and the Register contains no deaths.

Measles.—Early in January a number of cases of Measles occurred in the town, and spread so rapidly that the managers of the Board Schools decided to extend the Christmas vacation. The children attacked were mostly of tender years, and by the first quarter of the year eight

children under the age of 5 had succumbed to Measles or its complications.

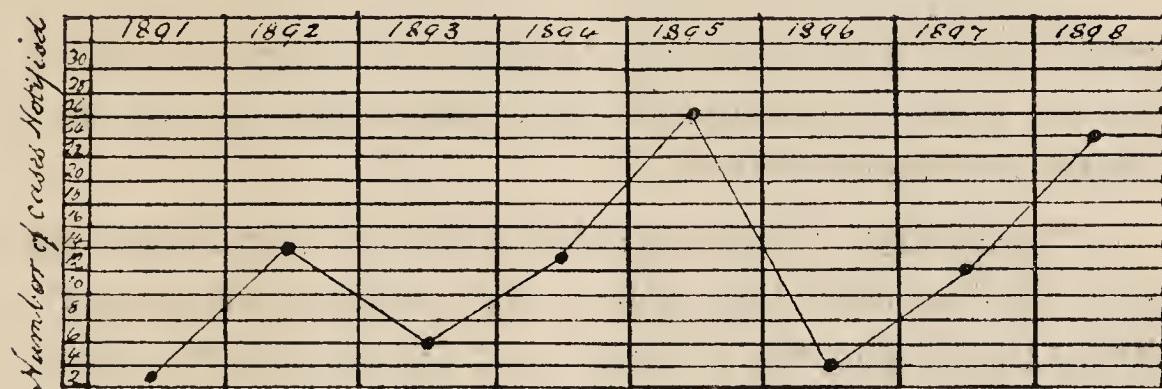
Up to the present this disease is not included in the infectious diseases to be notified under the Act, and in suggesting that compulsory notification be resorted to, say for a period of eighteen months, I am actuated by the belief that the apathy with which the poorer classes consider Measles would be lessened, and the Medical Officer of Health would have particular information of each case, and so restrain the other occupants of an infected house from wantonly communicating this most infectious disease to others, and strengthened by the fact that the death-rate from Measles (1·17 per 1,000) for the past year was greater than the combined death-rate of all notifiable diseases for the same period, viz., ·87 per 1,000.

There are some weighty arguments, of course, against this course being taken, such as the early infectivity of Measles—that is, before the characteristic rash has appeared—and the absence of any Isolation provision, etc. Yet I am convinced that it would have a salutary effect in that the parents would realise that Measles is an important and dangerous disease, and not one to be acknowledged for the first time lest a death certificate be required.

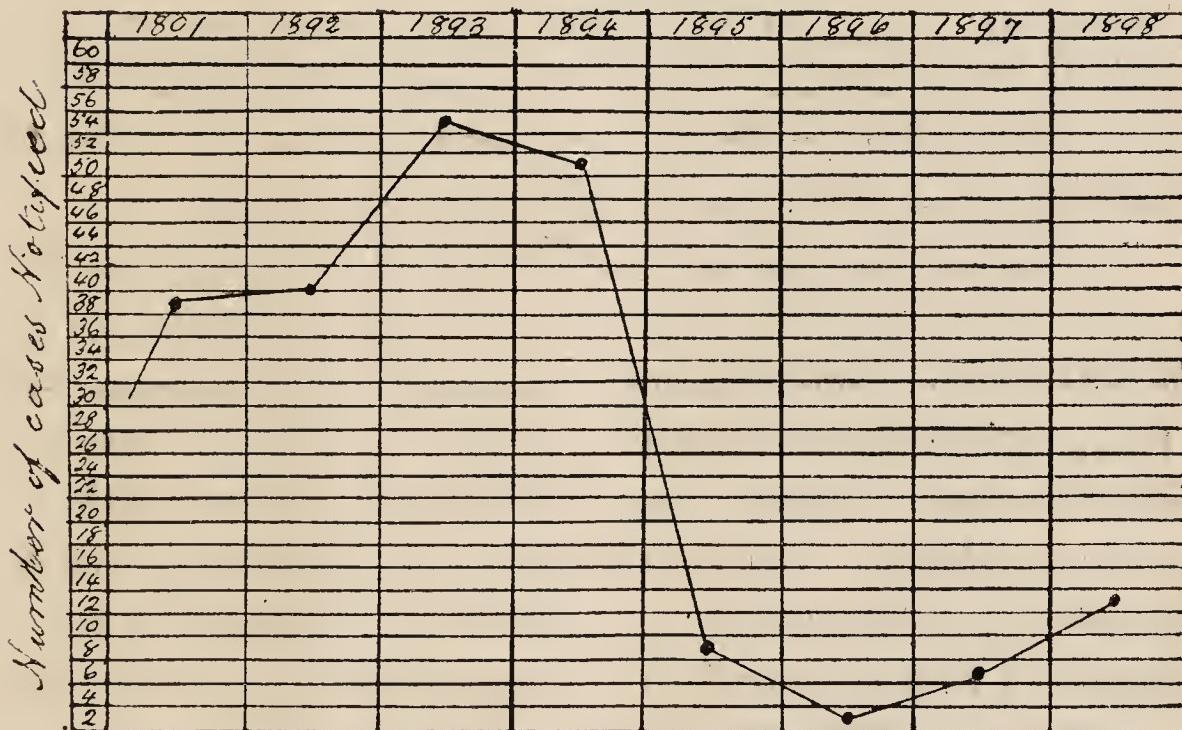
Influenza.—Two deaths directly attributable to Influenza were recorded, but the number of individuals attacked were considerably less; the type and its severity were mitigated.

Diagrams showing the yearly prevalence of four of the principal notifiable diseases from 1891 to 1898, inclusive.

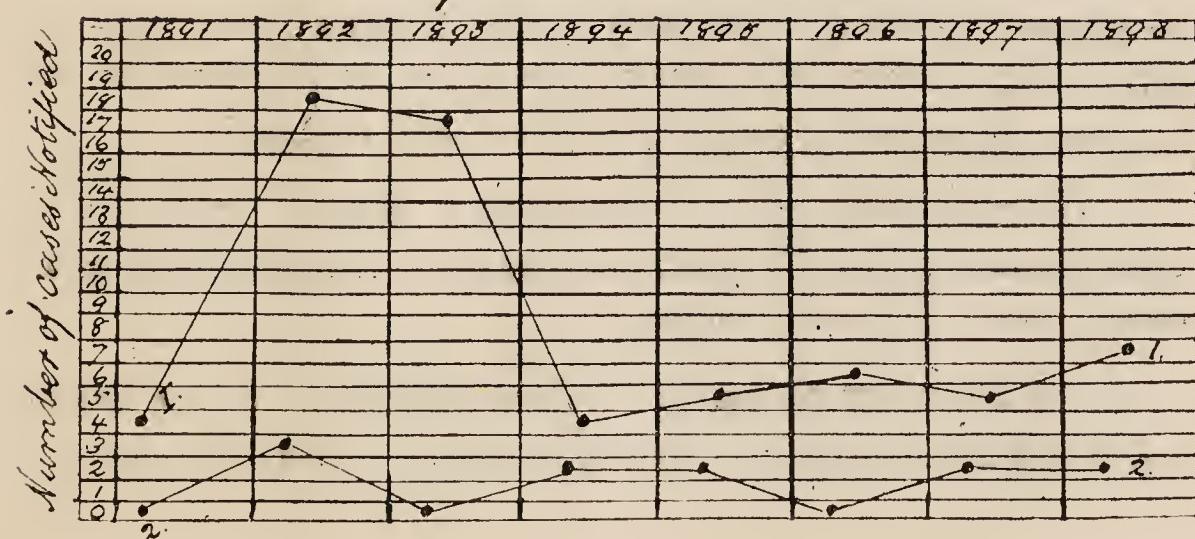
Diphtheria:



Scarlatina



1. Cysipelas. & 2. Enterica.



Vaccination.—The New Vaccination Act, which came into force in its entirety on January 1st, 1899, contained in Section 2 the “Conscience Clause,” which however became law on the passing of the Bill.

Vaccination and Re-vaccination prevent and control Small-pox, and without Vaccination no sanitary precautions can prevent Small-pox, but isolation and segregation of individuals may control it. It is impossible to predict what will be the result of the omission of Re-vaccination, or what fruit the Conscience Clause will bear, but the utterly absurd statements made by so-called conscientious objectors to presiding magistrates that have appeared in the weekly Press, tend rather to strengthen the wavering, than add recruits to the Anti-vaccinationists.

It is part of the duty of a Medical Officer of Health to advise the Sanitary Authority on all matters pertaining to the Public Health; and although it devolves on the Guardians of the Poor, and not on the District Council, to see the provisions of this Act duly carried out, nevertheless the overwhelming evidence adduced to prove the efficacy of Vaccination, and the unanimous opinion as to its marvellous prophylactic powers expressed by the Medical Profession, prompt me to emphasise my own conscientious belief that Vaccination and Re-vaccination are at the present day the only known preventatives of that most loathsome disease, Small-pox, and to urge upon you the desirability of warmly espousing the cause of Vaccination both in times of immunity and at any threatened outbreak.

Tuberculosis.—Tuberculosis is a general term used to designate all forms of disease produced by a living micro-organism called the “Tubercle bacillus.”

The President of the Local Government Board has pointed out that the death-rate of England and Wales has been materially

reduced of late years owing to sanitation, and such reduction is chiefly noticeable in the number of deaths from Phthisis, the most frequent form of Tuberculosis, and that milk is the most common vehicle in which the tubercle bacillus is introduced into the human body.

The English people are the only civilised nation using uncooked milk, and when it is generally known that milk boiled for a single instant, that is, raised to the temperature of 212° F, will destroy the virus of tubercle, it is confidently hoped that this simple preventive method will be practised in all households, and the prejudice against cooked milk, which is unfounded, will cease.

To control the production and distribution of milk that may be infected with tubercle, it is most essential that all cows and cow-sheds in the country should be under the constant supervision of skilled persons; for there is reason to believe that City dairies are palaces compared with some of our country sheds. Are all dairies and cowsheds sanitary, and do they receive constant and skilled supervision?

TABULATED STATEMENT OF INFECTIOUS DISEASES NOTIFIED,
SHOWING SEASONAL VARIATION, AND URBAN AND RURAL
DISTRIBUTION.

1898.	Jan., Feb., March.	April, May June.	July., Aug. Sept.	Oct., Nov., Dec.	U.	R.	Totals.
Scarlatina ...	...	4	6	2	...	12	12
Diphtheria ..	2	13	3	5	22	1	23
Enterica ...	1	...	...	1	1	1	2
Small-pox ...	...	2	...	...	...	2	2
Erysipelas ...	...	4	1	2	4	3	7
Total per Qtr.	3	23	10	10	27	19	46

VII. SEWERAGE.

During the past twelve months the Sewage Farm, worked on the "intermittent downward filtration" method, has been quite satisfactory. The land has not at any time been sewage sick, and the tenant has fairly and scientifically employed his ground. The greatly diminished rainfall has contributed to this end, for as you are well aware much of the surface water finds access to the mains.

The new pump works well, but has not been tested at full speed because no flood has occurred.

Twelve new man-hole covers have been placed at various points in the town ; these will obviate periodical breaking up of the roadway and facilitate flushing ; it would have been a distinct advantage had these covers been fitted with a valve so that the man-hole could have been filled with water and then suddenly passed into the drain with a full "head." The absurd method of placing a 3in. hose in a 9in. drain is altogether inadequate.

Lea Road Drainage.—The contract is out for making up Lea Road. This should be urged forward ; the necessary plant for this scheme has been in working order for the past twelve months.

VIII. SANITARY REQUIREMENTS OF THE DISTRICT.

(a) Permanent Isolation Hospital.—The probability of forming a "Combined District for Isolation purposes," which certainly existed early in the year, has unfortunately fallen through. Neither with Walthamstow, Epping, or Chingford, has it been found possible to join. The fact remains, however, that a Permanent Isolation Hospital is required for this district.

(b) Temporary Isolation.—The temporary structure still standing in the Upshire Hamlet has not been used during the year. The unavoidable delay occasioned by putting the Hospital in working order, procuring a Nurse and obtaining lodgings, etc., are insurmountable difficulties when a single case is to be isolated, and are such as to render this building obsolete for practical purposes, since, if isolation is to be effectual it must be promptly carried out.

(c) Insanitary Area.—The hope expressed last year that this important scheme would, in the near future, approach completion, has not been realised, but certain works connected therewith have been carried out, and the exact position to date is as follows.

The ten houses on the East Brook Estate, to accommodate some of the persons displaced, are practically completed. Camp's Cottages have been purchased, the tenants have quitted, certain other properties have been contracted for, and the arbitrators have given their award in the matter of the Jones and Edmondson Charities. There appears, however, to be some delay in coming to terms with the Leverton Charity, chiefly with regard to the position of a school site. The War Department has sanctioned the plan for covering in the "tail stream," and before this report is in your hands, a Local Government Board Inquiry will have been held, and I trust powers granted to borrow the £5,600 necessary to complete the purchase.

(d) Pavements.—Steady progress has been made in repairing and renovating the Town footpaths; 233 additional superficial yards were laid down last year.

(e) System of Scavenging and Removal of Refuse.—As far back as 1895 an adverse opinion was expressed as to

the method and frequency of cleansing the main streets, and again your attention is directed to this matter. In November and December, Sun Street and High Bridge Street were covered with liquid filth some inches deep, and the footpaths, too, became coated with greasy slime, a condition of affairs highly insanitary, very disagreeable, and a disgrace to an enlightened Council.

Fewer complaints have been made as to the removal of house refuse, but vigilance must be exercised to see that the terms of the contract are faithfully carried out. I do not insinuate that in the past the contract has been wilfully broken, but the manner of collection must tend to produce a slack method, as some houses are supplied with a movable receptacle, whilst the majority are without any form of temporary storage.

(f) **Bye-laws.**—The new Model Bye-laws are still in the hands of the Local Government Board.

Improvement.—At an early opportunity, the north bank of Cobbin Brook, opposite Aveley Cottages, Broom Hall Road, should be treated in the same way as a similar portion in Honey Lane. The road could be raised above the flood line, and as a further flood precaution, the brook itself should be cleansed, say from the Galley Hill Road to the foot of Quinton Hill.

The Summary of Sanitary work effected by the Sanitary Inspector is tabulated as usual.

IX. STATISTICAL INFORMATION.

A.—TABLE OF DEATHS DURING 1898.

Mortality from all causes at subjoined ages.

	At all ages.			Under 1 year.					
	84	23	12	4	1	and under 5	5	and under 15	15 and upwards.

Mortality from subjoined causes at ages below and above 5 years.

		Age Period.		Diphtheria.		Small-pox.		Typhoid.		Measles.		Whooping Cough.		Diarrhoea.		Influenza.		Rheumatic Fever.		Phthisis.		Bronchitis, Pneumonia, Pleurisy.		Heart.		Injuries.		Cancer.		All other Diseases.		Total.	
under 5	...	1	...	8	...	7	...	2	1	4	...	2	1	4	...	2	1	4	...	8	...	2	1	4	...	5	26	18	84				
over 5	4	...	1	...	...	2	1	4	7	8	...	2	1	4	...	2	1	4	...	8	...	2	1	4	...	5	21	53	84		

B.—TABLE OF POPULATION, BIRTHS AND NEW CASES OF INFECTIOUS SICKNESS IN 1898.

Last Census.	Estimated to middle of 1898.	Registered Births.	Age Period.		Scarlatina.	Diphtheria.	Typhoid.	Erysipelas.	Small-pox.	Total.
			Over 5.	Under 5.						
6,066	6,780	171	7	5	5	3	2	7	2	84
			20	2	...	...	...	...	...

On making a retrospect of the year it will be noticed that four out of the six important subjects that your Council had in hand at its commencement are on the verge of completion, viz. :—

- Public Water Supply.
- Lea Road Drainage.
- Highbridge Street Improvement.
- The Town Pavements.

But much remains to be done in the
Housing of the Working Classes,

A subject of recurrence and magnitude; and in the sixth—
Isolation of Infectious Diseases and Public
Disinfection,

You have a pressing matter demanding a solution in 1899.

The Annus Medicus may be briefly summed up as an average one, free from severe epidemics or other noteworthy incidents.

I have to thank you for re-electing me for a further period of three years, and to assure your Council that no duties appertaining to the important office of Medical Officer of Health will be neglected, or that fear or favour will bias me in their performance.

I have the honour to be, Sirs,

Your obedient Servant,

J. DAMER-PRIEST.

Summary of Work done through Sanitary Inspector.

					Total number for year.
1	Complaints received	...	...	...	410
2	Nuisances detected	...	..	..	356
3	Nuisances abated	...	...	...	369
4	Notices served	...	...	...	128
5	Summons taken out	...	...	...	—
6	Convictions	...	...	...	—
7	Cottages inspected	...	...	...	411
8	Lodging-houses inspected	...	...	...	—
9	Slaughter-houses inspected	...	...	...	4
10	Bake-houses inspected	...	...	...	8
11	Dairies and Milk-shops inspected	...	...	...	10
12	Cowsheds inspected	...	...	...	—
13	Workshops inspected	...	...	...	—
14	Filthy houses cleansed	...	...	...	—
15	Houses disinfected	...	...	...	36
16	Overcrowding abated	...	...	...	—
17	Houses placed in habitable repair	...	...	...	—
18	Houses closed	...	...	...	—
19	Houses erected or rebuilt. Certificate applied for	...	...	...	12
20	Certificates granted	...	...	...	—
21	Certificates deferred	...	...	...	—
22	Wells sunk or improved. Supplies of water afforded	...	...	...	—
23	Wells cleansed or repaired	...	...	...	—
24	Wells closed	...	...	...	—
25	Houses connected with sewers	...	...	...	—
26	Houses connected with water mains	...	...	...	90
27	Earth, pail, or improved privies constructed or altered	...	...	...	—
28	W.C.'s repaired or supplied with water	...	...	...	—
29	Cisterns cleansed, repaired, or covered	...	...	...	—
30	Animals improperly kept removed	...	...	...	—
31	Samples of water taken for analysis	...	...	...	41
32	Compensation paid for destruction of infected bedding, £14 12s. 6d.	...	...	...	—
33	Seizures of unsound meat	...	...	...	—

(Signed) C. W. WIGGS.

